

Notice of Allowability

Application No.

09/473,137

Examiner

Christopher Verdier

Applicant(s)

MIYAMOTO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 38,40-59,61-84 and 88-103.
3. ☒ The drawings filed on 28 December 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/104,171.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Felber, Attorney of record, on January 26, 2005.

The application has been amended as follows:

In the Claims:

In claim 56, line 2, -- a -- has been inserted before "temperature".

Claim 101 has been amended as follows:

-- Claim 101 (Currently Amended) A turbo-molecular pump comprising:
a casing portion housing a stator and a rotor therein;
a vane pumping section and/or a groove pumping section comprised by said stator and said rotor; and

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a heating source directly attached to a lower end portion of said stator of said groove pumping section at a position lower than a lower end of said rotor of said groove pumping section,

wherein the heat generating portion of said heating source does not protrude beyond the confines of said casing portion. --

Claim 102 has been amended as follows:

-- Claim 102 (Currently Amended) A turbo-molecular pump comprising:

a casing portion housing a stator and a rotor therein;

a vane pumping section and/or a groove pumping section comprised by said stator and said rotor; and

a heating source directly attached to a lower the lowermost end surface of said stator of said groove pumping section,

wherein the heat generating portion of said heating source does not protrude beyond the confines of said casing portion. --

The above change to claim 56 has been made to correct an informality therein. The above changes to claims 101 and 102 have been made in order to place the application in condition for allowance by defining over Okamura 5,924,841, Japanese Patent 2,557,551, and Japanese Patent 9-368,555, as set forth later below.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Claim 101 has been amended to recite that the heat generating portion of the heating source does not protrude beyond the confines of the casing portion of the turbo-molecular pump.

Claim 102 has been amended to recite that the heating source is directly attached to the lowermost end surface of the stator of the groove pumping section, and that the heat generating portion of the heating source does not protrude beyond the confines of the casing portion of the turbo-molecular pump. These features are directed towards unobvious improvements over the inventions of Okamura 5,924,841 and Japanese Patent 9-368,555. Okamura 5,924,841 (figure 1) and Japanese Patent 9-368,555 (figure 1) both disclose a turbo-molecular pump substantially as claimed including a heating source 17 directly attached to a lower end portion of a stator 20 of a groove pumping section 9 at a position lower than a lower end of the rotor 6 of the groove pumping section. The improvement comprises the heat generating portion of the heating source being formed such that it does not protrude beyond the confines of the casing portion of the turbo-molecular pump. In both Okamura 5,924,841 and Japanese Patent 9-368,555, the heat generating portion of the heating source extends outward of the confines of the casing portion. None of the prior art discloses or suggests the improvement.

Claim 102 has been amended to recite that the heating source is directly attached to the lowermost end surface of the stator of the groove pumping section. This feature is directed towards an unobvious improvement over the invention of Japanese Patent 2,557,551. Japanese Patent 2,557,551 (figure 1) discloses a turbo-molecular pump substantially as claimed including

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a heating source 18 directly attached to a lower end portion of a stator 16 of a groove pumping section 15/16 at a position lower than a lower end of the rotor 4 of the groove pumping section. The improvement comprises the heat generating portion of the heating source being attached to the lowermost end surface of the stator of the groove pumping section. In Japanese Patent 2,557,551, the heating source 18 is located in the mid-region of the stator. None of the prior art discloses or suggests the improvement.

The obviousness-type double patenting rejection of claim 102 as being unpatentable over claim 7 of U.S. Patent 6,793,466 is overcome by the amendments to claim 102 in that claim 7 of U.S. Patent 6,793,466 does not claim that the heating source is directly attached to the lowermost end surface of the stator of the groove pumping section, and does not claim that the heat generating portion of the heating source does not protrude beyond the confines of the casing portion of the turbo-molecular pump.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
January 28, 2005


Christopher Verdier
Primary Examiner
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